

<b>DART AEROSPACE LTD</b>	<b>Work Order:</b> 23970
<b>Description:</b> Crösstube Extrusion	<b>Part Number:</b> D6006-129
<b>Dwg:</b> D6006 Rev. A	<b>Qty:</b> 18
- Page 1 of 1	

Step	Location	Procedure	By	Date	Qty
1	DC	Issue Traveler	U	05/08/05	18
2	PG	Issue P/O: <u>2008430</u> a) Order as per Dwg D6006 b) Material: 3.250 x 0.515 wall 7075-T6/T6511 (WW-T-700/7 or QQ-A-225/9 or QQ-A-200/11) seamless aluminum tube c) Minimum ultimate tensile strength = 77 ksi d) Minimum tensile yield strength = 66 ksi e) Tolerance are per ASTM B210 (see details on Dwg D6006) f) <b>Material certification required</b>	U	05/08/05	18
3	RG	Receive and Inspect for transit damage <b>Ensure Material certification is attached</b>	CL	05/10/31	19
4	QC6	Inspect Level 6 <b>Ensure Material certification comply to Dwg D6006</b>	J	05/11/17	19
5	FP	Chemical Conversion Coat as per QSI-005 4.1			
6	QC3	Inspect Chemical Conversion Coat	N/A		
7	ST	Identify and Stock			
8	AC	Cost / part: _____	U	07/03/27	
9	DC	Close W/O Inspect Level 21	EC	09/01/07	19

Rev	Date	Change	Revised By	Approved
A	00.11.21	New Issue	EC	
B	00.12.06	Added: Issue P/O	EC	
C	04.06.15	Added tolerance to Step 2	KJ/JLM	

**RELEASED**

04/04/06

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Mfg / Design Mgr	Approval QC Inspector	
05-11-17	4	what is percentage for the elongation Requirement?				<i>[Signature]</i>	<i>[Signature]</i> 05-11-17	
07-03-27	5 6	N/A. Steps removed in new work orders.				<i>[Signature]</i>	<i>[Signature]</i> 07-03-27	

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Design Mgr	Approval QC Inspector
			Initial Design Mgr	Action Description Design Mgr	Sign & Date			

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes ☐ No ☒ DQA: *[Signature]* Date: 07/03/27

NOTE: Date & initial all entries

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_



DESIGN CP	DRAWN BY CP	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED [Signature]	APPROVED [Signature]	DRAWING NO. D6006	REV. A SHEET 1 OF 1
DATE 00.11.17		TITLE CROSSTUBE MATERIAL	SCALE 1:1
A	00.11.17	NEW ISSUE	

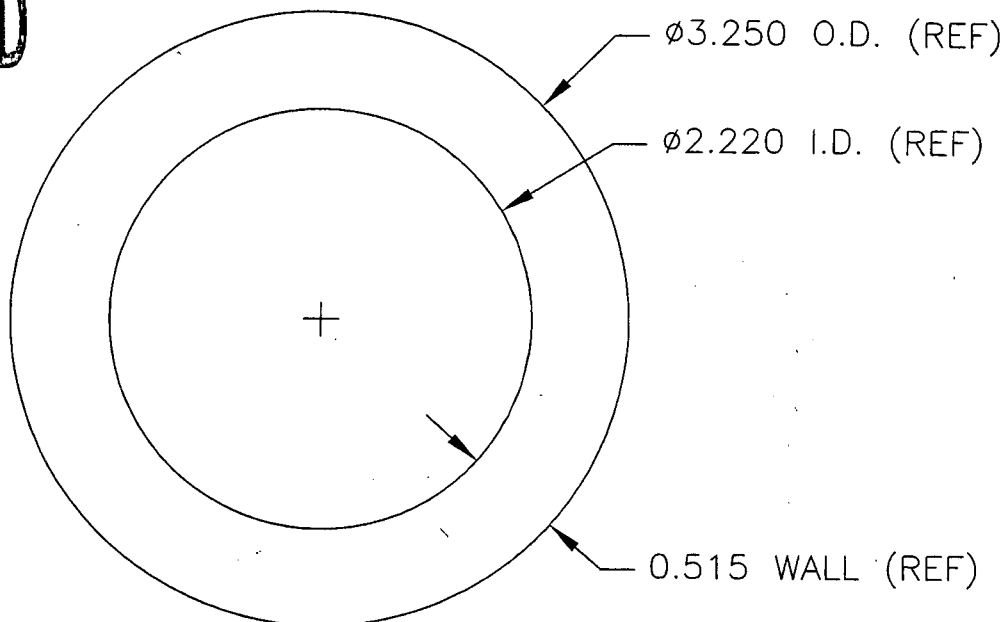
## SPECIFICATION CONTROL DRAWING

**RELEASED**  
00.11.24 [Signature]

SHOP COPY  
RETURN TO  
ENGINEERING

UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE

WORK ORDER  
NO. \_\_\_\_\_



### NOTES

- 1) D6006-XXX CROSSTUBE  
LENGTH

WHERE XXX IS LENGTH IN INCHES  
EG. 129" LONG TUBE: D6006-129

- 2) MATERIAL: 3.250 OD x 0.515 WALL 7075-T6/T6511 (WW-T-700/7 OR QQ-A-225/9 OR QQ-A-200/11) SEAMLESS ALUMINUM TUBE.  
MINIMUM ULTIMATE TENSILE STRENGTH = 77 ksi  
MINIMUM YIELD TENSILE STRENGTH = 66 ksi
- 3) TOLERANCES ARE PER ASTM B210 AS FOLLOWS:  
O.D.:  $\pm 0.008$  MEAN ( $\pm 0.016$  INCLUDING OVALITY)  
WALL:  $\pm 0.020$  MEAN ( $\pm 0.052$  INCLUDING ECCENTRICITY)  
LENGTH: XXX  $+0.188/-0.000$   
STRAIGHTNESS: 0.010" DEVIATION / 12" LENGTH
- 4) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
- 5) CHEMICAL CONVERSION COAT PER DART QSI 005 4.1

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# Job Costing Report

Dart Aerospace Ltd.  
Hawkesbury

Aug 04, 2005  
03:24 pm

Work Order No	:	0023970	Department Code:	
Project Name	:	D6006-129	Burden Flags	: NNNNNNN
Project For	:	WK543	WO Status	: Open
Work Order Type	:	Main	Invoice State	: Not Invoiced
Main WO Number	:		Invoice Date	:
House Part Number	:	D6006-129	Invoice Number	:
Description	:	Crosstube material	Invoice Amount	: 0.00
Manufactured	:	Yes		
Amount Req'd	:	18	Order Entry No	:
Amount Done	:	0	OE Value	: 0.00
Start Date	:	08-04-05		
Est Finish Date	:	10-29-05	Est Margin	: 0.000%
Act Finish Date	:		Actual Margin	: 0.000%
Drawings Req'd	:	No		
Ok for Approval	:			
Approval Rec'd	:			

\$0 Posted to Finished Goods

	Estimated	Actual	Var. %	Posted	To Post
Material Cost	0.00	0.00	0.00	0.00	0.00
Engineering Hours	0.00	0.00	0.00		
Engineering Cost	0.00	0.00	0.00	0.00	0.00
Production Hours	0.00	0.00	0.00		
Production Cost	0.00	0.00	0.00	0.00	0.00
Packaging Hours	0.00	0.00	0.00		
Packaging Cost	0.00	0.00	0.00	0.00	0.00
OverHead Hours	0.00	0.00	0.00		
OverHead Cost	0.00	0.00	0.00	0.00	0.00
CNC Hours	0.00	0.00	0.00		
CNC	0.00	0.00	0.00	0.00	0.00
Misc. Hours	0.00	0.00	0.00		
Misc.	0.00	0.00	0.00	0.00	0.00
Burden	0.00	0.00	0.00		
Total Cost	0.00	0.00	0.00		
Margin	0.000	0.000			
Selling Cost	0.00	0.00			

	Estimated	Actual
Labour Hrs/Amount Done	0.00	0.00
Profits/(Loss)	0.00	0.00



ALUnna

# Abnahmeprüfzeugnis 3.1 - EN 10204:2004

Inspection Certificate 3.1 - EN 10204:2004 / Certificat de Reception 3.1- EN 10204:2004

**Kunde:** Dart Aerospace Ltd.  
**Client:**

1270 Aberdeen Street  
K6A1K7 Hawkesbury, ON Canada

**Zeugnisnummer:** 722/05

**Cert No. / No. du certificat:**

**Bestellnummer:** 2008430

**Order No. / No. de commande**

**Auftrag:** 15301/7

**Our Reference/Notre Reference:**

**Produkt:**

**Product / Produit:**

**Spezifikation:**

**Specification:**

**Werkstoff:**

**Alloy/Alliage:**

**Abmessung**

**Size / Dimension**

**Kennzeichnung**

**Marking/Marquage:**

**Lieferung**

**Delivered Material / Matériel délivré:**

7075

3,250 INCH x 2,220 INCH x 0,515 INCH x 129,000 INCH  
D6006-129

ALUnna-Cert No.722/05-7075-T6511-Cast No.01503204-Qqa-200/11E-3.250" OD X0.515"Wall-heat No.219/09-  
lot15301/7-1-P.O.2008430

**Zustand:** T 6511

**Temper/État**

pcs.

lbs

19

1093

## 1. Chemische Analyse

## Chemical Analysis / analyse chimique

Charge/ Cast No.	min. max.	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Pb	Zr	Bi	Sn	Ni
				1,2		2,1	0,18	5,1						
		0,40	0,50	2,0	0,30	2,9	0,28	6,1	0,20					
01503204		0,10	0,20	1,46	0,02	2,44	0,19	5,88	0,03	0,01	0,01			

Elements without indication < 0,01 %

## 2. Mechanische Eigenschaften

## Mechanical Properties / Valeurs Mécaniques

Anforderungen Requirements	tensile (Rm) ksi	yield (Rp0,2) ksi	elongation 2" %	elongation A %	Hardness HB	Heat No.
min.	77,0	66,0				
max.						
1	82,795	76,995	12,0		152	219/09 - 19 pcs.
2	83,520	77,865	12,0		147	

**Ergebnis der  
Prüfungen:**

Es wird bestätigt, daß die Lieferung geprüft wurde und den Vereinbarungen bei der Bestellannahme entspricht

**Test results:**

We confirm that the delivery has been tested and applies to the agreements made on receipt of the order

**Resultats:**

Nous confirmons que la livraison a été contrôlée et correspond avec les conventions faites à la réception de la commande



ALUnna

# Abnahmeprüfzeugnis 3.1 - EN 10204:2004

Inspection Certificate 3.1 - EN 10204:2004 / Certificat de Reception 3.1- EN 10204:2004

**Kunde:** Dart Aerospace Ltd.  
**Client:**

1270 Aberdeen Street  
K6A1K7 Hawkesbury, ON Canada

**Zeugnisnummer:** 723/05

**Cert No. / No. du certificat:**

**Bestellnummer:** 2008430

**Order No. / No. de commande**

**Auftrag:** 15301/8

**Our Reference/Notre Reference:**

**Produkt:**

**Product / Produit:**

**Spezifikation:**

**Specification:**

**Werkstoff:**

**Alloy/Alliage:**

**Abmessung**

**Size / Dimension**

**Kennzeichnung**

Rohre nahtlos gepresst  
Tubes seamless extruded Tubes file sur alufile  
AMS - QQ - A - 200/11E; Spezifikation D 6008

7075

3,250 INCH x 2,374 INCH x 0,438 INCH x 180,000 INCH  
Article D6008-180 3.250" x 0.438" - buff finish

ALUnna-cert No.723/05-7075-T6511-cast No.79609-AMS-QQA-200/11E-3.250" Od X 0.438"Wall-Heat No.85/09-

**Zustand:** T 6511

**Temper/État**

